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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,395	12/21/2001	Mark R. Hansen	P-TB 5067	5417

23601 7590 05/15/2003

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EXAMINER

MARTINELL, JAMES

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 05/15/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,395

Applicant(s)

HANSEN ET AL.

Examiner

James Martinell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-87 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-87 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) ✓
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9 & 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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The disclosure is objected to because of the following informalities.

- (a) The instant application does not comply with the Sequence Rules (37 CFR §§ 1.821-1.825) in that sequences appear at page 79, line 30 and page 80, line 2 without corresponding SEQ ID NOs.
- (b) At page 78, line 1, it is not understood what "[12]" means.
- (c) Claim 21 should probably depend from claim 20 and not claim 83.

Appropriate correction is required.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01. Such code appears at page 22, line 4.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of

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each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 6, 11, and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by any one of Corpet et al (Nucleic Acids Res. 28 (1), 267 (2000)), Henikoff et al (Nucleic Acids Res. 28 (1), 228 (2000)), or Murzin et al (J. Mol. Biol. 247: 536 (1995)). Each of the references teaches the sequence analysis of polypeptides and the grouping of polypeptides into families or other classifications based upon structural similarities related to sequence similarities. For example, see Corpet et al at (Abstract and page 269, column 1), Henikoff et al (Abstract), and Murzin et al (entire article). The methods of the claims are embraced by each of the references.

Claims 1, 4, 6, 11, and 12 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by either one of Apweiler et al (Nucleic Acids Res. 29 (1), 44 (2001)) or Bejerano et al (Bioinformatics 17 (10), 927 (2001)). Each of the references teaches the sequence analysis of polypeptides and the grouping of polypeptides into families or other classifications based upon structural similarities related to sequence similarities. For example, see Apweiler et al (Abstract, page 44, and page 47 (column 2) and Bejerano et al (Abstract and the Results section). The methods of the claims are embraced by each of the references.

Claims 2, 3, 5, 7-10, and 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Corpet et al (Nucleic Acids Res. 28 (1), 267 (2000)), Henikoff et al (Nucleic Acids Res. 28 (1), 228 (2000)), Murzin et al (J. Mol. Biol. 247: 536 (1995)), Apweiler et al (Nucleic Acids Res. 29 (1), 44 (2001)), or Bejerano et al (Bioinformatics 17 (10), 927 (2001)) in view of applicants' admitted state of the prior art (*e.g.*, pages 9, 21, 23, 27, and 28). The discussion of each of the primary references hereinabove is incorporated here. Applicants acknowledge the following sequence comparison methods, statistical methods, and clustering methods to be old: the Smith-Waterman algorithm (page 21), BLAST (page 21), Needleman-Wunsch (page 21), Sellers (page 21), FASTA (page 23), use of the Tanimoto Coefficient (page 27), the Mahalanobis Distance measurement (page 27), and Jarvis-Patrick clustering

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(pages 9 and 28). At the time the instant invention was made it would have been obvious for one of ordinary skill in the art to apply any of the sequence comparison methods, statistical methods, or clustering methods acknowledged to be old in the protein classification methods taught in any one of the primary references in order to analyze large amounts of data and to efficiently group proteins within families according to their structures.

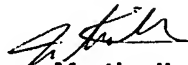
Claims 25-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Corpet et al (Nucleic Acids Res. 28 (1), 267 (2000)), Henikoff et al (Nucleic Acids Res. 28 (1), 228 (2000)), Murzin et al (J. Mol. Biol. 247: 536 (1995)), Apweiler et al (Nucleic Acids Res. 29 (1), 44 (2001)), or Bejerano et al (Bioinformatics 17 (10), 927 (2001)) in view of applicants' admitted state of the prior art (*e.g.*, pages 9, 21, 23, 27, and 28) as applied to claims 2, 3, 5, 7-10, and 13-24 above and further in view of either one of Böhm (J. Computer-Aided Molec. Design 6: 61 (1992)) or Carugo et al (PROTEINS: Structure, Function, and Genetics 28: 10 (1997)). Böhm uses computer modeling to position small molecules into clefts of protein structures (*e.g.*, see Summary, pages 61-62, and pages 75-76). Carugo et al discloses structures of dinucleotide binding pockets of proteins (*e.g.*, see Abstract, pages 11-15, Table IV, and pages 24-25). At the time the instant invention was made it would have been obvious for one of ordinary skill in the art to predict whether small molecules would bind to particular polypeptides by modeling the binding sites of polypeptides in the manner of either one of the tertiary references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Martinell whose telephone number is (703) 308-0296. The fax phone number for Examiner Martinell's desktop workstation is (703) 746-5162. The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be e-mailed to james.martinell@uspto.gov. Since e-mail communications may not be secure, it is suggested that information in such requests be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached on (703) 305-4028. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



James Martinell, Ph.D.
Primary Examiner
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